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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,208	01/28/2004	Thomas Patrick Nolan	50103-524	7644

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600 13th Street, N.W.  
Washington, DC 20005-3096

EXAMINER
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BERNATZ, KEVIN M

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/765,208

Applicant(s)

NOLAN, THOMAS PATRICK

Examiner

Kevin M. Bernatz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 6-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-24 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/28/04;11/8/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Examiner's Comments***

1. Regarding the limitation(s) "different materials" in claim 1, the Examiner has given the term(s) the broadest reasonable interpretation(s) consistent with the written description in applicants' specification as it would be interpreted by one of ordinary skill in the art. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Donaldson Co., Inc.*, 16 F.3d 1190, 1192-95, 29 USPQ2d 1845, 1848-50 (Fed. Cir. 1994). See MPEP 2111. Specifically, the Examiner notes that materials having the same elemental components but at different concentrations would still meet the requirements of "different materials", but identical compositions having different lattice structures/crystalline orientations would not.
2. The Examiner notes that the language of claim 2 is confusing because it implies that there are additional crystalline layers. However, the Examiner notes that the intent is that the pair of spaced-apart layers are the first and third crystalline layer and the intermediate layer is the second crystalline layer. Applicants are suggested to better word claim 2 to remove the confusion.

### ***Drawings***

3. The drawings are objected to because the margins on page 1 appear to be incorrect (left hand side, especially). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the

application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Election/Restrictions***

4. Applicant's election with traverse of Group I (claims 1 – 11) and Species I (claims 1 – 5) in the paper filed November 30, 2005 is acknowledged. Applicants' traversal is on the grounds that the restriction between an intermediate and final product is improper. The Examiner respectfully disagrees. As noted in the MPEP, while the intermediate product *typically* loses its identity, the mere fact that it does not does not exclude an otherwise proper intermediate-final product grounds for restriction. In the instant case, the Examiner has met the requisite burden for showing proper grounds for

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restriction for the claimed intermediate and final products. Claims 6 – 24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention and/or specie, there being no allowable generic or linking claim. The requirement is still deemed proper and is therefore made FINAL.

### ***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1 – 5 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 – 20 and Paragraphs 0039 – 0042 and 0062 - 0068 of copending Application No. 10/776,222 (U.S. Patent App. No. 2004/0247943 A1). This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. Although the conflicting claims are not identical, they are not patentably distinct from each other because application '222 claims substantially identical subject matter but fails to explicitly claim that one of the crystalline layers is provided with

stronger out-of-plane preferred growth orientation per the claimed limitations in claim 1, nor the atomic spacing mismatch per the claimed limitations of claim 2.

Regarding the above noted limitation(s), the Examiner notes that the disclosure of App. 222 teach(es) that the claimed invention is an obvious variation of the disclosed invention (*Paragraphs 0039 – 0042 and 0062 - 0068*).

Applicants are reminded that while it is generally prohibited from using the disclosure of a potentially conflicting patent or application in an Double Patenting analysis, there are two exceptions permitted by the MPEP. Specifically, “those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent”. In the instant case, the relied upon disclosure sections provide support for the purpose of the layers and the basis for the improvements observed by the claimed invention.

7. Claims 1 – 5 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 - 25 of copending Application No. 10/764,602 (U.S. Patent App. No. 2004/0258962 A1). This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. Although the conflicting claims are not identical, they are not patentably distinct from each other because application '602 claims substantially identical subject matter but fails to explicitly claim that one of the crystalline

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layers is provided with stronger out-of-plane preferred growth orientation per the claimed limitations in claim 1.

Regarding the above noted limitation(s), the Examiner notes that the disclosure of App. '602 teach(es) that the claimed invention is an obvious variation of the disclosed invention (*Paragraphs 0013 – 0015 and 0064 - 0067*).

Applicants are reminded that while it is generally prohibited from using the disclosure of a potentially conflicting patent or application in an Double Patenting analysis, there are two exceptions permitted by the MPEP. Specifically, “those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent”. In the instant case, the relied upon disclosure sections provide support for the purpose of the layers and the basis for the improvements observed by the claimed invention.

Regarding the subject matter of claim 2, the Examiner notes that the disclosed atomic mismatch limitations are deemed to be inherent to the disclosed materials for the layers claimed by App. '602 (*e.g. claims 7 – 9*).

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1 – 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Lambeth et al. (WO 99/24973).

Regarding claim 1, Lambeth et al. disclose a multiple layer structure comprising a pair of spaced-apart crystalline layers of different materials (*page 43, line 35 bridging page 44, line 15 – Ag and Co-based magnetic alloy*) with an intermediate crystalline layer between and in contact with each of said pair of crystalline layers (*page 43, line 35 bridging page 44, line 15 – Ti*), said intermediate crystalline layer providing one of said crystalline layers of said pair with a stronger out-of-plane preferred growth orientation than if each of said pair of crystalline layers are in overlying contact (*page 43, line 35 bridging page 44, line 15 – the Co-based magnetic alloy*).

Regarding claim 2, Lambeth et al. disclose first, second and third crystalline layers meeting applicants' claimed limitations (*page 44, lines 1 – 15 and page 51, line 30 bridging page 52, line 5- first of Ag; second of Ti and third of Co-based alloy; or, alternatively, first of NiFe, second of Ag and third of Ti*).

Regarding claims 3 - 5, Lambeth et al. disclose first, second and third crystalline layers meeting applicants' claimed material and structural limitations (*page 43, line 35*



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*bridging page 44, line 15 and page 51, line 30 bridging page 52, line 5: 50 nm NiFe, 12 nm Ag and 50 nm Ti).*

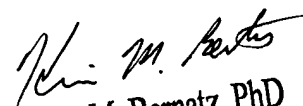
### **Conclusion**

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M Bernatz whose telephone number is (571) 272-1505. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KMB  
February 16, 2006

  
Kevin M. Bernatz, PhD  
Primary Examiner